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# ASTRA

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**MSM0115**

**MSM0320**

**MSM0650**

**INTERIOR & EXTERIOR  
LED LIGHT**



Operating Instructions

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**ASTEL**  
MARINE

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## PREFACE

The ASTRA series of compact LED lights designed with 1, 3 and 6 high-power LEDs with electronic driver is built-in waterproof anodized aluminium casing for surface mounting. Innovative electronic design with built-in microprocessor enables network connections and remote control with digital dimming. Advanced optical system with reflector and holographic diffuser allows perfect light spread. Different colour temperature options offer right solutions in the interior and exterior.

Due to wide range of prestige massive face shapes made of aluminium or stainless steel the ASTRA is suitable to fit on luxury yachts and superyachts.

All models are designed for operating at extreme temperature and voltage conditions with thermal, transient and reverse polarity protections.

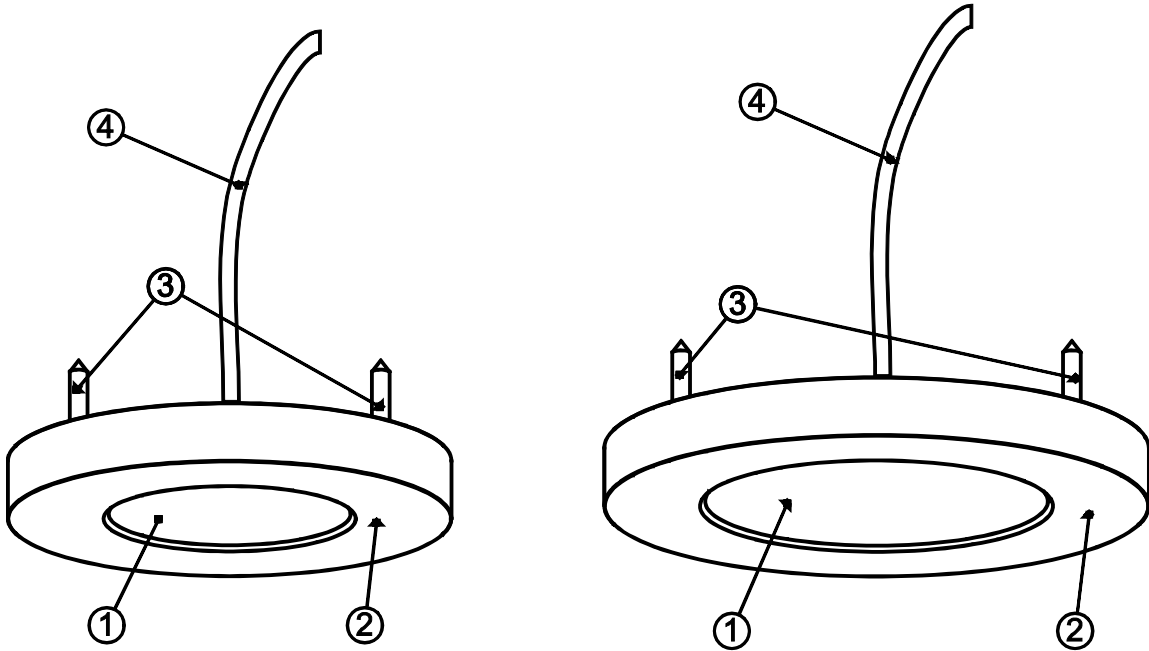
## FEATURES

- 1, 3 or 6 High-Power LEDs Design
- Anodized Aluminium Casings
- Massive Face Shapes with Different Finishes
- White, Blue, Green or Red Lighting
- Reflector with Holographic Diffuser
- Microprocessor Control (network)
- Digital Dimming
- Polarity Protection
- Transient Protection
- Thermal Protection
- Wide Range Power Supply
- Low Power Consumption
- Simple Installation

## PRECAUTIONS

- The interior & exterior light has to be installed and used in accordance with the instructions of this manual only.
- The power supply has to be disconnected before installation.
- Avoid using this unit near appliances generating strong magnetic fields.
- The optical window has to be cleaned with a mild soap or detergent and lukewarm water by using a soft cloth or sponge. Do not use abrasive or highly alkaline cleaners. Never scrape with razor blades or other sharp instruments. Benzene, leaded gasoline, acetone or carbon tetrachloride should never be used.
- Do not turn power off immediately and refer servicing to qualified service personnel if the interior & exterior light does not operate normally following the operating instructions.

# COMPONENTS AND CONNECTORS



**(1) Optical window**

High-Grade Polycarbonate Glass Optical Window with Holographic Diffuser.

**(2) Face shape**

Massive face shapes made of aluminium or stainless steel.

**(3) Fixing screws**

The 3 fixing screws to fix the aluminium casing on the flat surface.

**(4) Cable**

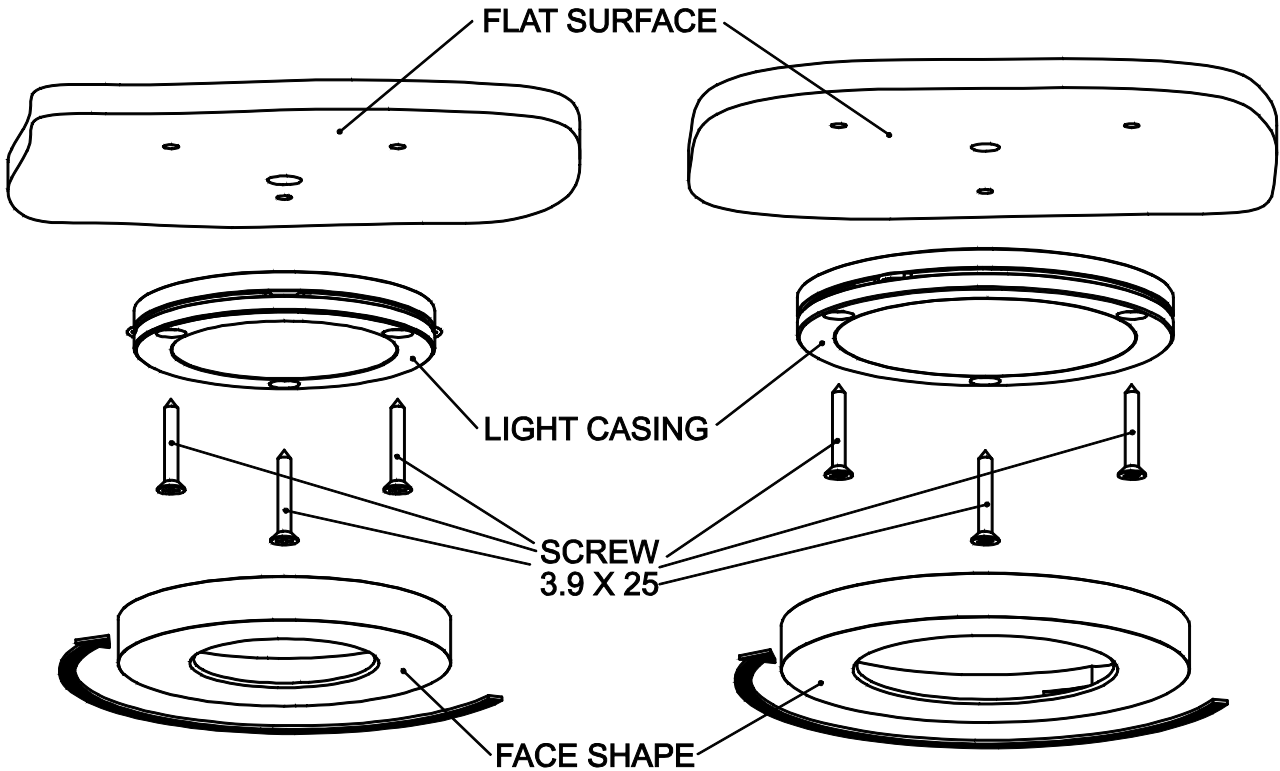
The 2-pole or 3-pole multi-core cable to connect the 12-24Vdc power supply and dimming control.

# INSTALLATION

The interior & exterior light kit consists of the following components:

- Interior & Exterior Light ASTRA series
- 3 x fixing screw 3.9 x 25
- Operating Instructions with Declaration of Conformity and Warranty conditions

The ASTRA has to be installed on a flat surface of the vessel's ceiling or wall.  
The installation has to be realized by a qualified personnel.



## Surface preparation

The interior & exterior light is recommended to be installed on the location to allow the best illumination and lighting effects.

The diameter of the hole drilled through the board to insert the cable has to be 8 mm.

## Fixing

The interior & exterior light has to be fixed to the flat surface with 3 self-taping screws 3.9 x 25.

The face shape has to be fixed by pushing onto the light body and then turning clockwise.

The face shape has to be removed by turning counter clockwise and pulling out.

## Note:

- **Do not cover the interior & exterior light body with any kind of temperature isolating material.**

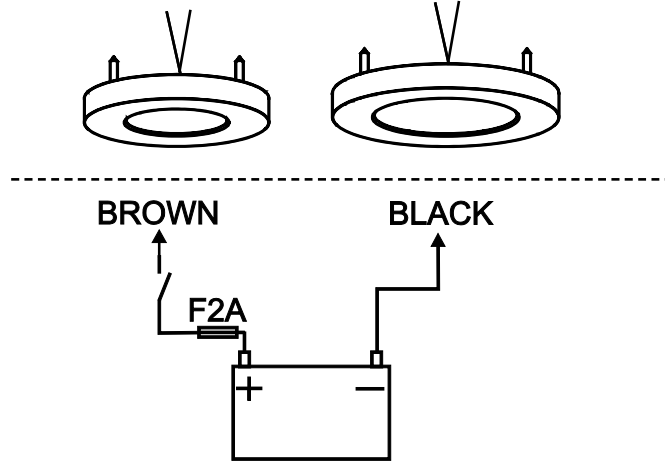
**The interior & exterior light is protected by a temperature sensor against over-heating. When the temperature of the interior & exterior light exceeds 85°C the interior & exterior light is automatically switched off.**

## CONNECTION

The power supply has to be connected through the switch (not included) with correct polarity and protected by a fuse (not included). The power supply voltage range has to be from 10 - 30Vdc.

### 2-wire internal dimming control

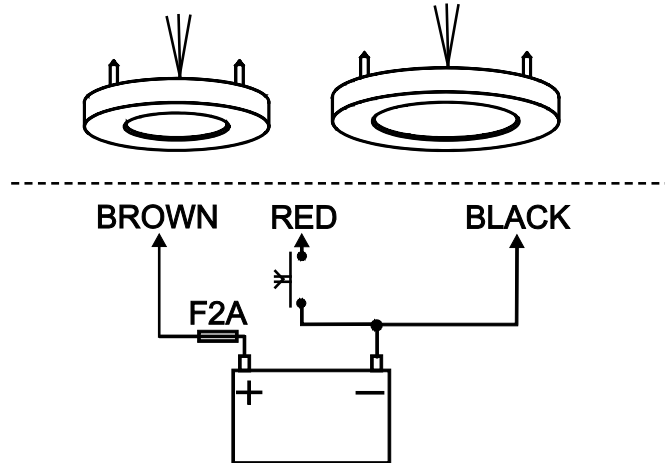
The interior & exterior light has to be connected as described in the table below:



ASTRA wire color	FUNCTION
Brown	+ DC Power Supply
Black	GND Power Supply

### 3-wire external dimming control

The interior & exterior light has to be connected as described in the table below:



ASTRA wire color	FUNCTION
Brown	+ DC Power Supply
Black	GND Power Supply
Red	Dimming

The dimming control of the unit has to be connected through the momentary switch (not included) to the GND by using a 2-pole signal cable extension. (not included)

When two or more interior & exterior lights are connected the dimming control wires (red) can be connected in parallel and controlled by using only one momentary switch.

## **CONTROLS**

### **INTERNAL DIMMING**

The dimming of interior & exterior light can be controlled by using the on/off switch. (not included)

#### **Turning on**

Press the switch to on position.

#### **Turning off**

Press the switch to off position.

#### **Dimming**

Follow the procedure to set the dimmer:

- (1) Turn the light on
- (2) Turn the light off-on quick and wait until light lights at full power
- (3) Turn the light off-on quick and wait until light lights at full power
- (4) Turn the light off-on quick and wait until light lights at desired power
- (5) Turn the light off when the light lights at desired power
- (6) Wait for a moment
- (7) Turn the light on and the light is now adjusted to the desired power

### **EXTERNAL DIMMING**

The dimming of interior & exterior light can be controlled by using the additional momentary switch. (not included)

#### **Turning on / off**

Press the momentary switch shortly.

#### **Dimming**

When the light is on, press the momentary switch longer until the desired power is achieved.

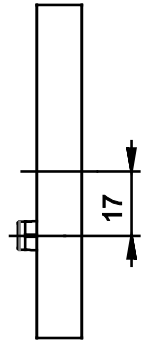
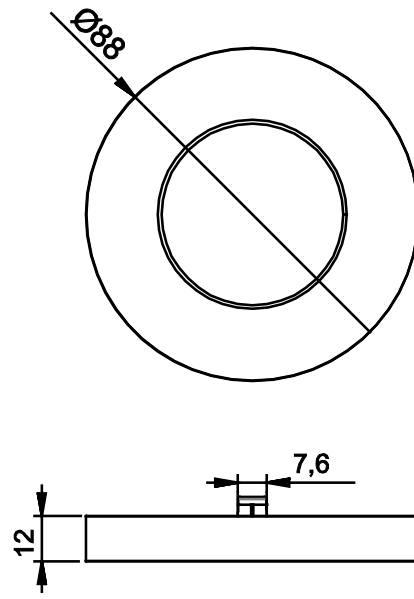
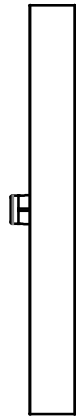
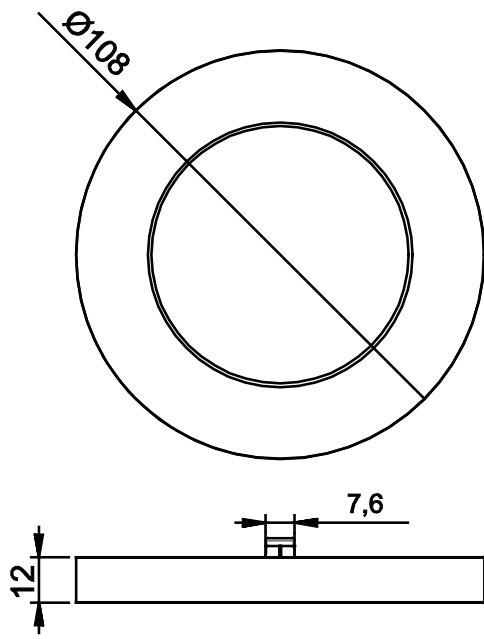
#### **Turning on minimum**

When the light is off, press the momentary switch longer (e.g. one second or more) until the light is turned on at minimum power.

#### **Set default**

Press the momentary switch for min. 40 seconds or until the light is turned off.

# APPEARANCE





## TECHNICAL SPECIFICATIONS

### **ASTRA MSM0115**

<i>Power supply</i>	12 – 24 Vdc, max. 300 mA/12 Vdc or 155 mA/24 Vdc
<i>Reflector angle</i>	100°
<i>Optical window</i>	High-grade polycarbonate glass
<i>Luminous flux</i>	270 lm
<i>White color temperature</i>	4500K (daylight) or 3000K (warm)
<i>Casing</i>	Black anodized aluminium
<i>Dimensions</i>	Φ88 mm x 12 mm
<i>Weight</i>	Aluminium front shape 170g Stainless steel front shape 260g

### **ASTRA MSM0320**

<i>Power supply</i>	12 – 24 Vdc, max. 330 mA/12 Vdc or 185 mA/24 Vdc
<i>Reflector angle</i>	100°
<i>Optical window</i>	High-grade polycarbonate glass
<i>Luminous flux</i>	430 lm
<i>White color temperature</i>	4500K (daylight) or 3000K (warm)
<i>Casing</i>	Black anodized aluminium
<i>Dimensions</i>	Φ88 mm x 12 mm
<i>Weight</i>	Aluminium front shape 170g Stainless steel front shape 260g

### **ASTRA MSM0650**

<i>Power supply</i>	12 – 24 Vdc, max. 600 mA/12 Vdc or 315 mA/24 Vdc
<i>Reflector angle</i>	100°
<i>Optical window</i>	High-grade polycarbonate glass
<i>Luminous flux</i>	870 lm
<i>White color temperature</i>	4500K (daylight) or 3000K (warm)
<i>Casing</i>	Black anodized aluminium
<i>Dimensions</i>	Φ108 mm x 12 mm
<i>Weight</i>	Aluminium front shape 250g Stainless steel front shape 350g

## WARRANTY

1. The equipment manufactured by ASTEL d.o.o. is warranted to be free from defects in workmanship and materials under normal use and service.
2. This Warranty is in effect for of two years from the date of purchase by the user. Proof of purchase must be included, to establish that it is inside the warranty period.
3. This Warranty is transferrable and covers the product for the specified time period.
4. In case any part of the equipment proves to be defective, other than those parts excluded in paragraph 5 below, the owner should do the following:
  - (a) prepare a detailed written statement of the nature and circumstances of the defect, to the best of the Owner's knowledge, including the date of purchase, the place of purchase, the name and address of the installer, and the Purchaser's name, address and telephone number;
  - (b) the Owner should return the defective part or unit along with the statement referenced in the preceding paragraph to the warrantor, ASTEL d.o.o., or an authorized distributor, postage/shipping prepaid and at the expense of the Purchaser;
  - (c) if upon the Warrantor's or authorized distributor's examination, the defect is determined to result from defective material or workmanship, the equipment will be repaired or replaced at the Warrantor's option without charge, and returned to the Purchaser at the Warrantor's expense;
  - (d) no refund of the purchase price will be granted to the Purchaser, unless the Warrantor is unable to remedy the defect after having a reasonable number of opportunities to do so. Prior to refund of the purchase price, Purchaser must submit a statement in writing from a professional boating equipment supplier that the installation instructions of the Operating Instructions manual have been complied with and that the defect remains;
  - (e) warranty service shall be performed only by the Warrantor, or an authorized distributor, and any attempt to remedy the defect by anyone else shall render this warranty void.
5. There shall be no warranty for defects or damages caused by faulty installation or hook-up, abuse or misuse of the equipment including exposure to excessive heat, salt or fresh water spray, or water immersion except for equipment specially designed as waterproof.
6. There shall be no responsibility or liability whatsoever on the part of the Warrantor or its employees and representatives for injury to any person or persons, or damage to property, loss of income or profit, or any other consequential or resulting damage or cost which may be claimed to have been incurred through the use or sale of the equipment, including any possible failure or malfunction of the equipment, or part thereof.
7. The Warrantor assumes no liability for incidental or consequential damages of any kind including damages arising from collision with other vessels or objects.

# DECLARATION OF CONFORMITY

according to IEC Guide 22 and EN 45014

*Manufacturer's Name:* ASTEL, Podjetje za projektiranje, proizvodnjo in trgovino, d.o.o.

*Manufacturer's Address:* Dutovlje 138  
6221 Dutovlje  
Slovenija

declares that the products

*Item, Product Name and Model Number:* 1. Interior & Exterior light ASTRA series

conform to the following Product Specifications:

*EMC:* EN 55015:2006 + A1:2007  
EN 61547:1995 + A1:2000 + A2:2009  
EN 61547:2009

*Safety:* EN 60598-2-18:1995/A1:2012  
EN 60529:1992+A2:2013

Supplementary Information:

The products herewith comply with the requirements of the following Directives and carry the CE-marking accordingly:

- the Low Voltage Directive 2014/35/EU
- the EMC Directive 2014/30/EU
- the RoHS Directive (EU) 2015/863

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18<sup>th</sup> January, 2017

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